IN THE CLAIMS:

The text of all pending claims (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

Please AMEND claims 1, 8, 15 and 25 in accordance with the following:

1. (CURRENTLY AMENDED) A method comprising:

(a) providing a first optical fiber having dispersion;

(b) supplying an optical signal to said first optical fiber so that said optical signal is compressed on a time axis as propagating in said first optical fiber;

(c) supplying a compressed optical signal output from said first optical fiber to an optical device having a saturated gain thereby flattening a top of each pulse of said compressed optical signal; and

(d) supplying an optical signal output from said optical device to a second optical fiber.

2. (CANCELLED)

3. (PREVIOUSLY PRESENTED) A method according to claim 1, further comprising:

providing at least one optical amplifier along said first optical fiber; and

adjusting the peak power of said compressed optical signal so that the peak power becomes higher than a threshold power giving said saturated gain.

4. (PREVIOUSLY PRESENTED) A method according to claim 1, wherein:

the dispersion of said first optical fiber is normal dispersion; and

said (b) includes performing prechirping so that said optical signal has down-chirp.

5. (PREVIOUSLY PRESENTED) A method according to claim 1, wherein:

the dispersion of said first optical fiber is anomalous dispersion; and

said (b) includes performing prechirping so that said optical signal has up-chirp.

6. (PREVIOUSLY PRESENTED) A method according to claim 1, wherein said (b)

includes suitably setting the dispersion of said first optical fiber and the power of said optical signal.

7. (PREVIOUSLY PRESENTED) A method according to claim 1, further comprising providing a dispersion compensator for compensating the dispersion of said first optical fiber along said first optical fiber.

8. (CURRENTLY AMENDED) A method according to claim ~~2~~1, further comprising providing a dispersion compensator for compensating the dispersion of said second optical fiber along said second optical fiber.

9. (PREVIOUSLY PRESENTED) A method according to claim 1, further comprising providing an optical phase conjugator in the vicinity of a point where the dispersion of said first optical fiber is substantially equally divided.

10. (PREVIOUSLY PRESENTED) A method according to claim 1, further comprising providing an optical phase conjugator in the vicinity of a point where the dispersion of said second optical fiber is substantially equally divided.

11. (CANCELLED)

12. (CANCELLED)

13. (CANCELLED)

14. (CANCELLED)

15. (CURRENTLY AMENDED) A system comprising:

an optical transmitter outputting an optical signal;

a first optical fiber provided so that said optical signal is compressed on the time axis as propagating in said first optical fiber; and

an optical device to which a compressed optical signal output from said first optical fiber is supplied, said optical device having a saturated gain thereby flattening a top of each pulse of said compressed optical signal; and

a second optical fiber to which an optical signal output from said optical device is supplied.

16. (CANCELLED)

17. (PREVIOUSLY PRESENTED) A system according to claim 15, wherein said optical device comprises a semiconductor optical amplifier applying a gain saturated in concert with an increase in input power to said optical signal.

18. (PREVIOUSLY PRESENTED) A system according to claim 17, wherein said optical device further comprises a light source supplying assist light having a wavelength different from the wavelength of said optical signal to said semiconductor optical amplifier.

19. (ORIGINAL) A system according to claim 15, wherein:

said optical device comprises a distributed feedback (DFB) laser and a circuit for supplying a current to said DFB laser so that said DFB laser oscillates at a first wavelength;

said optical signal having a second wavelength different from said first wavelength, whereby said DFB laser applies a gain saturated in concert with an increase in input power to said optical signal.

20. (PREVIOUSLY PRESENTED) A system according to claim 19, wherein said optical device further comprises a light source supplying assist light having a third wavelength different from said first wavelength to said DFB laser.

21. (ORIGINAL) A system according to claim 15, further comprising at least one optical amplifier provided along said first optical fiber;

the peak power of said compressed optical signal being set so as to become higher than a threshold power giving said saturated gain.

22. (ORIGINAL) A system according to claim 15, wherein:

said first optical fiber has normal dispersion; and said optical transmitter includes means for performing prechirping so that said optical signal has down-chirp.

23. (ORIGINAL) A system according to claim 15, wherein:

said first optical fiber has anomalous dispersion;

and

said optical transmitter includes means for performing prechirping so that said optical signal has up-chirp.

24. (ORIGINAL) A system according to claim 15, further comprising a dispersion compensator provided along said first optical fiber for compensating the dispersion of said first optical fiber.

25. (CURRENTLY AMENDED) A system according to claim ~~16~~15, further comprising a dispersion compensator provided along said second optical fiber for compensating the dispersion of said second optical fiber.

26. (ORIGINAL) A system according to claim 15, further comprising an optical phase conjugator provided in the vicinity of a point where the dispersion of said first optical fiber is substantially equally divided.

27. (PREVIOUSLY PRESENTED) A system according to claim 15, further comprising an optical phase conjugator provided in the vicinity of a point where the dispersion of said second optical fiber is substantially equally divided.

28. (PREVIOUSLY PRESENTED) A method comprising:

(a) providing a first optical fiber having dispersion;

(b) supplying an optical signal to said first optical fiber so that said optical signal is compressed on a time axis as propagating in said first optical fiber; and

(c) supplying a compressed optical signal output from said first optical fiber to an optical device having a saturated gain thereby flattening a top of each pulse of said compressed optical signal.

29. (PREVIOUSLY PRESENTED) A system comprising:

an optical transmitter for outputting an optical signal;

a first optical fiber provided so that said optical signal is compressed on a time axis as propagating in said first optical fiber; and

an optical device to which a compressed optical signal output from said first optical fiber

is supplied, said optical device having a saturated gain to thereby flatten a top of each pulse of said compressed optical signal.